

## CLAIMS

What is claimed is:

1. An isolated polypeptide comprising an amino acid sequence having at least 95% sequence identity with amino acid residues 33-662 of SEQ ID NO:54, wherein the polypeptide stimulates inflammation upon binding zcytor17 ligand.
2. The isolated polypeptide of claim 1 wherein the polypeptide comprises amino acid residues 1-662 of SEQ ID NO:54.
3. The isolated polypeptide of claim 1 wherein the polypeptide consists of amino acid residues 33-662.
4. An isolated zcytor17 soluble receptor comprising an amino acid sequence having at least 95% sequence identity with amino acid residues 33-532 of SEQ ID NO:54, wherein the zcytor17 soluble receptor reduces zcytor17 ligand induced inflammation.
5. The isolated zcytor17 soluble receptor of claim 4 wherein the zcytor17 soluble receptor is fused to a heavy chain constant region of an immunoglobulin.
6. The isolated zcytor17 soluble receptor of claim 5 wherein the heavy chain constant region of the immunoglobulin is human Fc4.
7. An isolated polypeptide comprising amino acid residues 33-662 of SEQ ID NO:54.
8. The isolated polypeptide of claim 7 wherein the polypeptide comprises amino acid residues 1-662 of SEQ ID NO:54.

9. An isolated zcytor17 soluble receptor comprising an amino acid sequence of 33-532 of SEQ ID NO:54.

10. The isolated zcytor17 soluble receptor of claim 9 further comprising human immunoglobulin Fc4.

11. An isolated polynucleotide encoding a polypeptide wherein the encoded polypeptide comprises an amino acid sequence having at least 95% sequence identity with amino acid residues 33-662 of SEQ ID NO:54, wherein the polypeptide stimulates inflammation upon binding zcytor17 ligand.

12. The isolated polynucleotide of claim 11 wherein the polypeptide comprises amino acid residues 1-662 of SEQ ID NO:54.

13. The isolated polynucleotide of claim 11 wherein the polypeptide consists of amino acid residues 33-662.

14. An isolated polynucleotide encoding a zcytor17 soluble receptor wherein the encoded zcytor17 soluble receptor comprises an amino acid sequence having at least 95% sequence identity with amino acid residues 33-532 of SEQ ID NO:54, wherein the zcytor17 soluble receptor reduces zcytor17 ligand induced inflammation.

15. The isolate polynucleotide of claim 14 wherein the zcytor17 soluble receptor is fused to a heavy chain constant region of an immunoglobulin.

16. The isolate polynucleotide of claim 15 wherein the heavy chain constant region of the immunoglobulin is human Fc4.

17. An isolated polynucleotide encoding a polypeptide wherein the encoded polypeptide comprises amino acid residues 33-662 of SEQ ID NO:54.

18. An isolated polynucleotide encoding a zcytor17 soluble receptor wherein the encoded zcytor17 soluble receptor comprises an amino acid sequence of 33-532 of SEQ ID NO:54.
19. A composition comprising:
  - a polypeptide comprising amino acid residues 33-662 of SEQ ID NO:54; and
  - a pharmaceutically acceptable vehicle.
20. A composition comprising:
  - a zcytor17 soluble receptor comprising amino acid residues 33-532 of SEQ ID NO:54; and
  - a pharmaceutically acceptable vehicle.
21. The composition of claim 20 wherein the zcytor17 soluble receptor further comprises human immunoglobulin Fc4.
22. An isolated polynucleotide comprising nucleotides 593-2482 of SEQ ID NO:53.
23. The isolated polynucleotide of claim 22 wherein the nucleotides comprise nucleotides 497-2482 of SEQ ID NO:53.
24. An isolated polynucleotide comprising nucleotides 593-2092 of SEQ ID NO:53.
25. An expression vector comprising the following operably linked elements:
  - a transcription promoter;
  - a DNA segment encoding a polypeptide wherein the encoded polypeptide comprises amino acid residues 33-662 of SEQ ID NO:54; and

a transcription terminator,

wherein the promoter is operably linked to the DNA segment, and the DNA segment is operably linked to the transcription terminator.

26. The expression vector of claim 25 further comprising a secretory signal sequence operably linked to the DNA segment.

27. The expression vector of claim 26 wherein the secretory signal sequence encodes a polypeptide comprising amino acid residues 1-32 of SEQ ID NO:54.

28. An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA segment encoding a zcytor17 soluble receptor wherein the encoded zcytor17 soluble receptor comprises amino acid residues 33-532 of SEQ ID NO:54; and

a transcription terminator,

wherein the promoter is operably linked to the DNA segment, and the DNA segment is operably linked to the transcription terminator.

29. The expression vector of claim 28 further comprising a secretory signal sequence operably linked to the DNA segment.

30. The expression vector of claim 29 wherein the secretory signal sequence encodes a polypeptide comprising amino acid residues 1-32 of SEQ ID NO:54.

31. The expression vector of claim 28 further comprising a human immunoglobulin Fc4 operably linked to the DNA segment.

32. A cultured cell comprising the expression vector of claim 25, wherein the cell expresses the polypeptide encoded by the DNA segment.

33. A cultured cell comprising the expression vector of claim 28, wherein the cell expresses the zcytor17 soluble receptor encoded by the DNA segment.

34. A DNA construct encoding a fusion protein, the DNA construct comprising:

a first DNA segment encoding a polypeptide wherein the encoded polypeptide comprises an amino acid sequence 33-662 of SEQ ID NO:54;

at least one other DNA segment encoding an additional polypeptide;

wherein the first and other DNA segments are connected in-frame; and

wherein the first and other DNA segments encode the fusion protein.

35. A DNA construct encoding a fusion protein, the DNA construct comprising:

a first DNA segment encoding a zcytor17 soluble receptor wherein the zcytor17 soluble receptor comprises an amino acid sequence of 33-532 of SEQ ID NO:54;

at least one other DNA segment encoding an additional polypeptide;

wherein the first and other DNA segments are connected in-frame; and

wherein the first and other DNA segments encode the fusion protein.

36. The DNA construct of claim 35 wherein the at least one other DNA segment encodes a polypeptide comprising a human immunoglobulin Fc4.

37. An expression vector comprising the following operably linked elements:

a transcription promoter;

a DNA construct encoding a fusion protein of claim 35; and

a transcription terminator,

wherein the promoter is operably linked to the DNA construct, and the DNA construct is operably linked to the transcription terminator.

38. A cultured cell comprising an expression vector of claim 37, wherein the cell expresses the fusion protein encoded by the DNA construct.
39. A method of producing a polypeptide comprising:  
culturing a cell according to claim 32; and  
isolating the polypeptide produced by the cell.
40. A method of producing a zcytor17 soluble receptor comprising:  
culturing a cell according to claim 33; and  
isolating the zcytor17 soluble receptor produced by the cell.
41. A method of producing a fusion protein comprising:  
culturing a cell according to claim 38; and  
isolating the fusion protein produced by the cell.
42. A method of producing an antibody to a polypeptide comprising:  
inoculating an animal with a polypeptide comprising an amino acid sequence of 33-532 of SEQ ID NO:54;  
wherein the polypeptide elicits an immune response in the animal to produce the antibody; and  
isolating the antibody from the animal.
43. An antibody produced by the method of claim 42, which specifically binds to a polypeptide comprising an amino acid sequence of 33-532 of SEQ ID NO:54.
44. The antibody of claim 43 wherein the antibody is a monoclonal antibody.
45. The antibody of claim 44 wherein the monoclonal antibody is a neutralizing monoclonal antibody.